Name: Rachel Fischhoff Grade: 5 Date: March 30, 2012

Protractor Practice

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| Lesson Sources: EnVision 8-5 |
| Lesson Objectives: Students will be able to classify quadrilaterals based on properties—angles and pairs of sides. |
| Standards: CC 5G 3 Understand that attributes belonging to a category of two dimensional  figures also belong to all subcategories of that category.  *For example, all rectangles have four right angles and squares are*  *rectangles, so all squares have four right angles.* |
| Multicultural Content: |
| Materials and Advanced Preparation: Anchor chart—quadrilateral organizer from EnVisions, EnVision pages for students, Investigations quad. shape cards |
| Prior Knowledge and Skills Needed: angle measure, identifying parallel lines |
| Key/New Vocabulary: polygon |

Lesson Procedure: Part One

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| **Time** | **Teacher Actions** | **Student Learning Activities** | **Form of Assessment** |
| 1 min | **1. Connection**   * Brainstorm quadrilaterals we see around us * Yesterday, we began exploring shapes by categorizing triangles by their side lengths and by their angles—thinking about their properties. * Today, we will expand this work by looking at 4-sided polygons—quadrilaterals. | Explain purpose of mini-lesson | Active listening |
| 10 min max | **2. The Teaching (The Giving of Information):**   * Co-create anchor chart that explains the properties of various quatdirlaterals—reading off definitions and putting check marks where they fit * Parallelogram has both paris of opposite sides parallel and equal in length * Trapezoid—one pair of parallel sides * Rectangle—parallelogram with four right angles * Rhombus—parallelogram with four equal sides * Square—rectangle with four equal sides * Watch while I use this information to decide which kind of quadrilateral I’m looking at… * Now let’s look at a few shapes as a group… | * Co-creating chart * Watching/listening * Contributing to we-do | * Active listening * Some vocal participation |
|  | **3. Have-A-Go (optional)**   * Now it’s your turn. With a partner, take a look at the quadrilateral shape cards. Decide with your partner which shapes fit in which category. * Share out | How will students be actively involved?  By:   * Partner talk | * Share out from partner talk |
| **Anticipated Responses/Outcomes:**   * Will students remember to refer to the anchor chart? | | | |
|  | **4. The Link**   * Look at a couple of examples----use 2 triangles visual—two triangles make up a quadrilateral, 180 + 180 = 360 * Mathematicians, yesterday we saw that the three angles in a triangle always add up to 180 degrees. There is a rule that we can use to understand the angle measures in quadrilaterals, also—no matter what *kind* of quadrilateral we are looking at, we know that the angle measures of all four angles will add up to 360 degrees. * Today, you will use what you know about categories and properties of quadrilaterals—including the fact that all four angles in a quadrilateral will add up to 360—to complete the problem set I will pass out now. * You will work independently on problems 1-17. * Have kids repeat back directions | **(Workshop Time)**   * Using anchor chart * Using resource given with problem set * Solidifying knowledge of | * Observe and record accuracy *and* comfort |
|  | **5. Closing (at the share)**   * Connect this work back to triangles, back to angles |  |  |
| **Anticipated Responses/Outcomes:**   * This is a *lot of new information*. Students ability to hold on to new vocabulary will be varied. | | | |

**Reflections:**

How did the lesson plan work? What was effective? What did you learn? What would you change for tomorrow or the next time you will use this plan?